Ecological site R010XA025OR
Juniper Shallow North
10-12 PZ

Last updated: 5/13/2025
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General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

Associated sites

R010XA007OR	**Juniper Pumice South 9-12 PZ**
R010XA009OR	**Juniper Shrubby Pumice Flat 10-12 PZ**
R010XA023OR	**Juniper Shrubby Lava Blisters 10-12 PZ**
R010XA026OR	**Juniper Pumice North 10-12 PZ**

Similar sites

R010XA026OR	**Juniper Pumice North 10-12 PZ**
R010XA083OR	**Juniper Shrubby North 9-12 PZ**

Table 1. Dominant plant species

Tree	(1) *Juniperus occidentalis*
Shrub	(1) *Artemisia tridentata ssp. vaseyana*
Herbaceous	(1) *Pseudoroegneria spicata ssp. spicata* (2) *Festuca idahoensis*

Physiographic features

This site occurs on the north slopes of buttes, ridges and canyons.

Table 2. Representative physiographic features

Landforms	(1) Butte (2) Ridge (3) Canyon
Elevation	850 – 1,370 m
Slope	20 – 50 %
Aspect	N

Climatic features

The annual precipitation ranges for 9 to 12 inches and occurs mainly between the month of November and June, mostly in the form of rain and snow. The soil temperature regime is mesic. The average annual air temperature is 44 degrees F. with extreme temperatures ranging from -10 to 104 degrees F. The frost free period is 60 to 100 days. The optimum period for plant growth is from April through July.

Table 3 Representative climatic features

Frost-free period (average)	100 days
Freeze-free period (average)	
Precipitation total (average)	310 mm

Influencing water features

Soil features

The soils of this site are shallow, skeletal, well drained and medium textured. They are generally formed in volcanic ash and the underlying colluvium or residuum. Permeability is moderate and the available water holding capacity is 1 to 3 inches for the profile. The potential for wind erosoin is high.

Table 4. Representative soil features

Drainage class	Well drained
Permeability class	Moderate
Soil depth	50 cm
Available water capacity (0-101.6cm)	2.54 – 7.62 cm

Ecological dynamics

Juniper and big sagebrush decrease following burning while rabbitbrush increases. Overgrzing causes a decline in Idaho fescue and bluebunch wheatgrass.

Increasers and invaders include cheatgrass, mustard, and grey rabbitbrush.

As stoniness increases, the abundance of juniper and bluebunch wheatgrass increases, while Idaho fescue decreases.

State and transition model

Additional community tables

Table 5. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)
Grass/Grasslike					
1	**Dominant deep rooted perennial grasses**			493-673	
	bluebunch wheatgrass	PSSP6	*Pseudoroegneria spicata*	269-359	–
	Idaho fescue	FEID	*Festuca idahoensis*	224-314	–
2	**Sub-dominant deep rooted perennial grasses**			9-18	
	Thurber's needlegrass	ACTH7	*Achnatherum thurberianum*	9-18	–
4	**Sub-dominant shallow rooted perennial grasses**			54-108	
	Sandberg bluegrass	POSE	*Poa secunda*	45-90	–
	prairie Junegrass	KOMA	*Koeleria macrantha*	9-18	–
Forb					
7	**Dominant perennial forbs**			27-54	
	common yarrow	ACMI2	*Achillea millefolium*	9-18	–
	milkvetch	ASTRA	*Astragalus*	9-18	–
	fleabane	ERIGE2	*Erigeron*	9-18	–
9	**Other perennial forbs**			9-18	
	tapertip hawksbeard	CRAC2	*Crepis acuminata*	0-6	–
	desertparsley	LOMAT	*Lomatium*	0-6	–
	lupine	LUPIN	*Lupinus*	0-6	–
Shrub/Vine					
11	**Dominant evergreen shrubs**			90-135	
	mountain big sagebrush	ARTRV	*Artemisia tridentata ssp. vaseyana*	90-135	–
12	**Sub-dominant evergreen shrubs**			18-36	
	slender buckwheat	ERMI4	*Eriogonum microthecum*	9-18	–
	green rabbitbrush	ERTE18	*Ericameria teretifolia*	9-18	–
14	**Sub-dominant deciduous (or 1/2 shrubs) shrubs**			9-18	
	desert gooseberry	RIVE	*Ribes velutinum*	9-18	–
Tree					
16	**Dominant evergreen trees**			45-90	
	western juniper	JUOC	*Juniperus occidentalis*	45-90	–

Hydrological functions

The soils of this site have high infiltration rates and low runoff potential.

Wood products

Not practical for wood product removal. Tree growth form is not suitable for firewood or posts.

Other products

Stoniness and steep slopes make this site of low value for grazing because of poor accessibility.

Other information

Range seedings are impractical except when broadcast after burning. Species recommended include crested wheatgrass, sheep fescue, and secar bluebunch wheatgrass.

Other references

B10B Site also similar to this site:
Droughty North 9-12 PZ #010XB084OR

Contributors

Cici Brooks
E Ersch
Gene Hickman
K.Kennedy

Approval

Kirt Walstad, 5/13/2025

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	Jeff Repp and Bruce Frannsen
Contact for lead author	State Rangeland Management Specialist for NRCS - Oregon
Date	08/03/2012
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:** None, Slight sheet & rill erosion hazard

2. **Presence of water flow patterns:** None to some in interspaces

3. **Number and height of erosional pedestals or terracettes:** None to some in interspaces

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** 5-10%

5. **Number of gullies and erosion associated with gullies:** None

6. **Extent of wind scoured, blowouts and/or depositional areas:** None to some, Severe wind erosion hazard

7. **Amount of litter movement (describe size and distance expected to travel):** Fine - limited movement

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):** Moderately to significantly resistant to erosion; aggregate stability = 4-6

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Shallow, skeletal, well drained loams; moderate OM (1-3%)

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:** Significant ground cover (60-75%) and moderate to steep slopes (5-50%) moderately limit rainfall impact and overland flow

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):** None

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

Dominant: Bluebunch wheatgrass >= Idaho fescue > Mountain big sagebrush > Sandberg bluegrass = Western Juniper > forbs > other dominant shrubs > other dominant grasses

Sub-dominant:

Other:

Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** **Normal decadence and mortality expected**

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):** **Favorable: 1000, Normal: 800, Unfavorable: 600 lbs/acre/year at high RSI (HCPC)**

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:** **Perennial brush species will increase with deterioration of plant community. Western Juniper readily increases on the site. Cheatgrass and Medusahead invade sites that have lost deep rooted perennial grass functional groups.**

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17. **Perennial plant reproductive capability:** **All species should be capable of reproducing annually**
